AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended): A method of forming ~~selecting a candidate particulate material for~~ a composition comprising a candidate particulate material and a matrix, wherein the method comprises ~~the step of:~~

providing one or more candidate particulate material selected from carbon black or silica for said matrix;

measuring (a) at least one homogenous interaction parameter for at least one candidate particulate material, wherein said homogeneous interaction parameter relates to how the candidate particulate material interacts with itself, and/or (b) at least one heterogeneous interaction parameter for at least one candidate particulate material and the matrix, wherein said heterogeneous interaction parameter relates to how the particulate material and the matrix interact with each other;

~~selecting the~~ adding at least one of said candidate particulate material ~~based on a predetermined relationship between~~ to said matrix based upon the relationship of:

A) at least one performance property of the composition and

B) 1) said at least one homogeneous interaction parameter for ~~the~~ each candidate particulate material, ~~wherein said homogeneous interaction parameter relates to how the particulate material interacts with itself,~~ or

B) 2) said at least one homogeneous interaction parameter for ~~the~~ each candidate particulate material and at least one heterogeneous interaction parameter for ~~the~~ each candidate particulate material and the matrix~~, wherein said heterogeneous interaction parameter relates to~~

~~how the particulate material and the matrix interact with each other~~.

2. (Previously presented): The method of claim 1, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material, wherein the particulate material being measured with respect to physical phenomena that responds to interfacial potential property after effects of morphology have been removed.

3. (Previously presented): The method of claim 2, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix, wherein the particulate material or matrix are measured with respect to physical phenomena that responds to morphology as well as an interfacial potential property of said particulate material or matrix.

4. (Previously presented): The method of claim 1, wherein the selected candidate particulate material has an interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof which results in a target value for the performance property of the composition, wherein the target value is at least one measure of phenomena selected from the group consisting of one or more of interfacial potential by masstone, interfacial potential by gas adsorption techniques,

interfacial potential from adsorption from solution, interfacial potential from light scattering or disc centrifuge, interfacial potential by oil absorption, interfacial potential by wicking rates, interfacial potential by rheological tests, interfacial potential by sedimentation volumes, interfacial potential by phase segregations, interfacial potential by inverse gas chromatography, interfacial potential by spreading pressure, interfacial potential by drop contact angle, interfacial potential by measuring the pressure of gas to remove a probe liquid from the pores of a packed bed of the particulate material after it has been filled or partly filled by the liquid, interfacial potential by measuring the centrifugal force necessary to immerse particles of the particulate material floating on a probe liquid, interfacial potential by measuring the two-dimensional pressure sufficient to force particles of the particulate material floating on a probe liquid in a Langmuir trough, interfacial potential by measuring the relative adsorption of dye probes, interfacial potential by measuring the heat when the particulate material is immersed into a probe liquid, interfacial potential by measuring the heat released when a test adsorbate is adsorbed by the particulate material, and interfacial potential by measuring the sediment volumes in an homologous series of test liquids.

5. (Previously presented): The method of claim 1, further comprising the step of determining the relationship between A) and B): comprising obtaining at least one trend and/or functional relationship between A) at least one performance property of two or more compositions, each of said compositions comprising the matrix and a particulate material, and B) 1) at least one homogeneous interaction parameter for the particulate material or B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

6. (Canceled)

7. (Original): The method of claim 1, wherein the particulate material is carbon black.

8. (Canceled)

9. (Original): The method of claim 1, wherein the particulate material is fumed silica.

10. (Previously presented): The method of claim 1, wherein the matrix comprises at least one polymer, solvent, colorant, surfactant, different particulate material, or combinations thereof.

11. (Original): The method of claim 1, wherein the matrix is a polymer.

12. (Canceled)

13. (Previously presented): The method of claim 3, wherein the interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof for the particulate material and/or the matrix are determined by a liquid absorptometry method.

14. (Original): The method of claim 13, wherein the absorptometry method uses a liquid other than DBP or paraffin oil.

15. (Previously presented): The method of claim 14, wherein the absorptometry method uses propylene carbonate, water, ethylene glycol, or mixtures thereof.

16. (Previously presented): The method of claim 3, wherein the interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof for the particulate material and/or the matrix are determined by a wicking rate method comprising comparing the wicking rate of two or more different liquids in a particulate packed column.

17. (Original): The method of claim 16, wherein the wicking rate method uses nonane, hexadecane, isoalkanes, ethylene glycol, formamide, bromonaphthalene, acetonitrile, benzaldehyde, propylene carbonate, aniline, cyclohexanol, nitroanisole, dichlorobenzene, water, or mixtures thereof.

18. (Previously presented): The method of claim 3, wherein the interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof for the particulate material and/or the matrix are determined by a yield point method comprising measuring a degree of flocculation of the particulate material.

19. (Original): The method of claim 18, wherein the yield point method uses a hydrocarbon.

20. (Original): The method of claim 19, wherein the hydrocarbon is paraffin oil, hexadecane, nonane, or mixtures thereof.

21. (Previously presented): The method of claim 3, wherein the interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof for the particulate material and/or the matrix are determined by a interfacial potential vapor adsorption method comprising using an inert gas for gas adsorption analysis.

22. (Original): The method of claim 21, wherein the interfacial potential vapor adsorption method uses pentane, nonane, acetonitrile, methylene chloride, water, or mixtures thereof.

23. (Previously presented): The method of claim 3, wherein the interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof for the particulate material and/or the matrix are determined by an IGC method comprising measuring retention time of a gas probe flowing through a packed bed of particulate material.

24. (Original): The method of claim 23, wherein the IGC method uses butane, pentane, hexane, heptane, tetrahydrofuran, acetone, ethyl acetate, ether, chloroform, acetonitrile, or mixtures thereof.

25. (Original): The method of claim 1, wherein the performance property is conductivity,

dispersibility, impact strength, color, reinforcement, powder flow, tribocharging, and rheology.

26. (Original): The method of claim 1, wherein the relationship is the difference between the work of cohesion for the particulate material and the work of adhesion for the particulate material and the matrix.

27. (Previously presented): The method of claim 1, wherein the method further comprises the step of selecting the candidate particulate material based on at least one morphological value of the particulate material selected from the group consisting of shape, size, and structure.

28. (Previously presented): The method of claim 1, wherein the method further comprises the step of selecting the candidate particulate material based on at least one chemical value of the particulate material selected from at least one of the group consisting of overall composition, surface composition, and extractable materials.

29. (Previously presented): The method of claim 3, further comprising the step of determining the interfacial potential property value, the value derived from an interfacial potential property value, the component of an interfacial potential property value, or combinations thereof for the matrix, wherein the step of determining the interfacial potential property value, the value derived from an interfacial potential property value, the component of an interfacial potential property value, or combinations thereof for the matrix comprises determining the performance property of a composition comprising the matrix and at least one probe particulate material having a predetermined interfacial potential property value, value derived from an interfacial potential

property value, component of an interfacial potential property value, or combinations thereof, and wherein the performance property is selected from the group consisting of molecular weight, molar volume, dipole moment, relative permittivity, viscosity, density, surface tension, melting point, glass transition temperature, color, and UV absorption.

30. (Canceled)

31. (Previously presented): The method of claim 3, wherein the matrix has a predetermined interfacial potential property value, the value derived from an interfacial potential property value, the component of an interfacial potential property value, or combinations thereof, as derived from one or more of Hildebrand parameters, hydrogen bonding characteristics, electrostatic factors, fractional polarity, Hansen solubility parameters, Snyder's Polarity index, or solvatochromic parameters.

32. (Previously presented): The method of claim 3, further comprising the step of determining a surrogate matrix having a predetermined interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof, wherein said surrogate matrix comprises a chemically related formulation of a customer's exact formulation.

33. (Original): The method of claim 32, further comprising the step of selecting the candidate particulate material based on a predetermined relationship between:

A) at least one performance property of a composition comprising the surrogate

matrix and the particulate material, and

B) a combination of

i) at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and

ii) at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the surrogate matrix.

34. (Original): The method of claim 33, further comprising the step of determining the relationship between A) and B).

35. (Withdrawn): A method of selecting a candidate particulate material for a composition comprising a particulate material and a matrix, wherein the method comprises the step of selecting the candidate particulate material based on a predetermined relationship between:

A) at least one performance property of a composition comprising the particulate material and a surrogate matrix, wherein said surrogate matrix comprises a chemically related formulation of a customer's exact formulation, and

B) 1) at least one homogeneous interaction parameter for the particulate material, wherein said homogeneous interaction parameter relates to how the particulate material interacts with itself, or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix,

wherein said heterogeneous interaction parameter relates to how the particulate material and the matrix interact with each other.

36. (Withdrawn): The method of claim 35, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material.

37. (Withdrawn): The method of claim 36, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix.

38. (Withdrawn): The method of claim 35, further comprising the step of determining the relationship between A) and B).

39. (Withdrawn): The method of claim 3, further comprising the step of determining the interfacial potential property value, the value derived from an interfacial potential property value, the component of an interfacial potential property value, or combinations thereof for the particulate material, as measured as at least one measure of phenomena selected from the group consisting of one or more of interfacial potential by masstone, interfacial potential by gas adsorption techniques, interfacial potential from adsorption from solution, interfacial potential from light scattering or disc centrifuge, interfacial potential by oil absorption, interfacial

potential by wicking rates, interfacial potential by rheological tests, interfacial potential by sedimentation volumes, interfacial potential by phase segregations, interfacial potential by inverse gas chromatography, interfacial potential by spreading pressure, interfacial potential by drop contact angle, interfacial potential by measuring the pressure of gas to remove a probe liquid from the pores of a packed bed of the particulate material after it has been filled or partly filled by the liquid, interfacial potential by measuring the centrifugal force necessary to immerse particles of the particulate material floating on a probe liquid, interfacial potential by measuring the two-dimensional pressure sufficient to force particles of the particulate material floating on a probe liquid in a Langmuir trough, interfacial potential by measuring the relative adsorption of dye probes, interfacial potential by measuring the heat when the particulate material is immersed into a probe liquid, interfacial potential by measuring the heat released when a test adsorbate is adsorbed by the particulate material, and interfacial potential by measuring the sediment volumes in an homologous series of test liquids.

40. (Withdrawn): The method of claim 39, further comprising the step of determining the interfacial potential property value, the value derived from an interfacial potential property value, the component of an interfacial potential property value, or combinations thereof for the particulate material.

41. (Withdrawn): A method of providing a candidate particulate material for a composition comprising a particulate material and a matrix, wherein the method comprises the steps of:

A) providing at least one probe particulate material having a predetermined interfacial potential property value, value derived from an interfacial potential property value,

component of an interfacial potential property value, or combinations thereof to a customer;

B) selecting the candidate particulate material based on a predetermined relationship between

a) at least one performance property of the composition and

b) 1) at least one homogeneous interaction parameter for the particulate material or

b) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix; and

C) providing the candidate particulate material to the customer.

42. (Withdrawn): The method of claim 41, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material.

43 (Withdrawn): The method of claim 42, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix.

44. (Withdrawn): The method of claim 41, wherein the selected candidate particulate material has an interfacial potential property value, value derived from an interfacial potential property

value, component of an interfacial potential property value, or combinations thereof which results in a target value for the performance property of the composition.

45. (Withdrawn): The method of claim 41, further comprising the step of determining the relationship between a) and b).

46. (Withdrawn): A composition comprising a particulate material and a matrix, wherein the composition has at least one performance property that is related to the combination of:

A) at least one homogeneous interaction parameter for the particulate material or

B) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

47. (Withdrawn): The composition of claim 46, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material.

48. (Withdrawn): The composition of claim 47, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix.

49. (Withdrawn): The composition of claim 46, wherein the performance property is

conductivity, dispersibility, impact strength, color, reinforcement, powder flow, tribocharging, and rheology.

50. (Withdrawn): The composition of claim 46, wherein the performance property is related to the difference between the work of cohesion and the work of adhesion.

51. (Withdrawn): A method of providing a performance property comprising the step of combining a particulate material and a matrix, wherein the particulate material and the matrix have at least one interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof which is related to the performance property.

52. (Withdrawn): The method of claim 51, wherein the performance property is conductivity, dispersibility, impact strength, color, reinforcement, powder flow, tribocharging, and rheology.

53. (Withdrawn): The method of claim 51, wherein the performance property is related to the difference between the work of cohesion and the work of adhesion.

54. (Withdrawn): The method of claim 4, wherein the candidate particulate material has a lower cost than a second candidate particulate material, wherein the candidate particulate material and second candidate particulate material have similar interfacial potential property values, values derived from an interfacial potential property value, components of an interfacial potential property value, or combinations thereof and result in similar target values for the performance

property of the composition.

55. (Withdrawn): The method of claim 54, wherein the candidate particulate material is from 1% to 50% lower in cost than the second candidate particulate material.

56. (Currently amended): A method of forming ~~selecting a candidate matrix for~~ a composition comprising a candidate particulate material and a matrix, wherein the method comprises providing one or more candidate particulate material selected from carbon black or silica for said matrix and determining a relationship by ~~the step of selecting the candidate matrix based on a predetermined relationship between~~:

A) measuring at least one performance property of the composition and

B) measuring 1) at least one homogeneous interaction parameter for the particulate material, wherein said homogeneous interaction parameter relates to how the particulate material interacts with itself, or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix, wherein said heterogeneous interaction parameter relates to how the particulate material and the matrix interact with each other,

adding at least one of said candidate particulate material to said matrix based upon the relationship, wherein the selected candidate matrix has an interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combinations thereof which results in a target value for the performance property of the composition.

57. (Original): The method of claim 56, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material.

58. (Original): The method of claim 57, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix.

59. (Canceled)

60. (Original): The method of claim 56, further comprising the step of determining the relationship between A) and B).

61. (Withdrawn): A method of developing a new or improved particulate material, wherein the method comprises the step of obtaining at least one trend and/or functional relationship between:

A) at least one performance property of two or more compositions, each of said compositions comprising a matrix and a particulate material, and

B) 1) at least one homogeneous interaction parameter for the particulate material or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

62. (Withdrawn): The method of claim 61, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material of each of said compositions.

63. (Withdrawn): The method of claim 62, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material of each of said compositions and for the matrix.

64. (Withdrawn): The method of claim 61, further comprising the step of utilizing said trend and/or functional relationship to identify at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for said new or improved particulate material.

65. (Withdrawn): The method of claim 64, further comprising the step of making said new or improved particulate material having the identified interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combination thereof.

66. (Withdrawn): The method of claim 64, further comprising the step of selecting said new or improved particulate material having the identified interfacial potential property value, value derived from an interfacial potential property value, component of an interfacial potential property value, or combination thereof from an inventory of available particulate materials.

67. (Withdrawn): The method of claim 61, wherein B) 2) is based on more than one matrix.

68. (Withdrawn): The method of claim 63, wherein the number of particulate materials is greater than or equal to the number of interfacial potential property values, values derived from an interfacial potential property value, components of an interfacial potential property value, or combinations thereof for the particulate material.

69. (Withdrawn): The method of claim 61, wherein said trend and/or functional relationship is provided in the form of a graph, formula, chart, raw data, algorithm, or combinations thereof.

70. (Withdrawn): The method of claim 64, wherein said new or improved particulate material is identified based on improved performance for at least one performance property compared to other particulate materials available.

71. (Withdrawn): The method of claim 64, wherein said new or improved particulate material is identified based on cost for said particulate material compared to other particulate materials available.

72. (Withdrawn): The method of claim 61, further comprising the step of utilizing at least one morphological value of the particulate material in obtaining said trend and/or functional relationship.

73. (Withdrawn): The method of claim 61, wherein said matrix is a specific customer formulation or a surrogate thereof.

74. (Withdrawn): The method of claim 61, wherein the matrix comprises at least one polymer, solvent, colorant, surfactant, additional particulate material, or combinations thereof.

75. (Withdrawn): The method of claim 61, wherein said matrix is a polymer.

76. (Withdrawn): The method of claim 61, wherein said matrix is a solvent.

77. (Withdrawn): The method of claim 61, wherein the trend and/or functional relationship further comprises at least one property of the matrix.

78. (Withdrawn): A method of developing a new or improved composition comprising a matrix and a particulate material, wherein the method comprises the step of obtaining at least one trend and/or functional relationship between

A) at least one performance property of two or more compositions, each of said compositions comprising the matrix and a particulate material, and

B) 1) at least one homogeneous interaction parameter for the particulate material or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

79. (Withdrawn): The method of claim 78, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material of each of said compositions.

80. (Withdrawn): The method of claim 79, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material of each of said compositions and for the matrix.

81. (Withdrawn): The method of claim 78, further comprising the step of utilizing said trend and/or functional relationship to identify said new or improved composition.

82. (Withdrawn): The method of claim 78, wherein the trend and/or functional relationship further comprises at least one property of the matrix.

83. (Withdrawn): A performance map comprising

A) at least one performance property of a composition comprising a matrix and a particulate material, and

B) 1) at least one homogeneous interaction parameter for the particulate material or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

84. (Withdrawn): The performance map of claim 83, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material.

85. (Withdrawn): The performance map of claim 84, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix.

86. (Withdrawn): The performance map of claim 83, wherein said performance map demonstrates at least one trend and/or functional relationship between A) and B).

87. (Withdrawn): The performance map of claim 83, wherein said performance map is utilized to identify at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for a new or improved particulate material.

88. (Withdrawn): The performance map of claim 83, wherein said matrix is a specific customer

formulation or a surrogate thereof.

89. (Withdrawn): The performance map of claim 83, wherein the matrix comprises at least one polymer, solvent, colorant, surfactant, additional particulate material, or combinations thereof.

90. (Withdrawn): The performance map of claim 83, wherein said matrix is a polymer.

91. (Withdrawn): The performance map of claim 83, wherein said matrix is a solvent.

92. (Withdrawn): A method of performance mapping comprising the step of comparing between

A) at least one performance property of a composition comprising a matrix and a particulate material, and

B) 1) at least one homogeneous interaction parameter for the particulate material or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

93. (Withdrawn): The method of performance mapping of claim 92, wherein the homogeneous interaction parameter comprises at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material.

94. (Withdrawn): The method of performance mapping of claim 93, wherein the heterogeneous interaction parameter comprises at least one interfacial potential property value, at least one

value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for the particulate material and for the matrix.

95. (Withdrawn): A process map comprising

A) at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for a particulate material and

B) at least one process variable for a process for preparing said particulate material.

96. (Withdrawn): The process map of claim 95, wherein said process map demonstrates at least one trend and/or functional relationship between A) and B).

97. (Withdrawn): The process map of claim 95, wherein said process map is utilized to identify at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for a new or improved particulate material.

98. (Withdrawn): The process map of claim 95, wherein said process variable is temperature, pressure, chemical composition, residence time, stoichiometry, reactor quench length, amount of quench air, feedstock composition, primary fuel type, type and/or level of downstream additives, or type, concentration, and/or amount of post treatment.

99. (Withdrawn): The process map of claim 98, wherein said type of post treatment is chemical modification or addition of an adherent.

100. (Withdrawn): The process map of claim 99, wherein said adherent is a surfactant or dispersant.

101. (Withdrawn): A method of process mapping comprising the step of comparing between

A) at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for a particulate material and

B) at least one process variable for a process for preparing said particulate material.

102. (Withdrawn): The method of process mapping of claim 101, wherein said process variable is temperature, pressure, chemical composition, residence time, stoichiometry, reactor quench length, amount of quench air, feedstock composition, primary fuel type, type and/or level of downstream additives, or type, concentration, and/or amount of post treatment.

103. (Withdrawn): The method of process mapping of claim 102, wherein said type of post treatment is chemical modification or addition of an adherent.

104. (Withdrawn): The method of process mapping of claim 103, wherein said adherent is a surfactant or dispersant.

105. (Withdrawn): The method of process mapping of claim 101, further comprising the step utilizing a method of performance mapping comprising the step of comparing between

A) at least one performance property of a composition comprising a matrix and a particulate material, and

B) 1) at least one homogeneous interaction parameter for the particulate material or

B) 2) at least one homogeneous interaction parameter for the particulate material and at least one heterogeneous interaction parameter for the particulate material and the matrix.

106. (Withdrawn): A method of developing a new or improved particulate material, said method comprising the step of utilizing the performance map of claim 83.

107. (Withdrawn): A method of developing a new or improved particulate material, said method comprising the step of utilizing the process map of claim 95.

108. (Withdrawn): The method of claim 106, further comprising the step of utilizing a process map comprising

A) at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for a particulate material and

B) at least one process variable for a process for preparing said particulate material.

109. (Withdrawn): The method of claim 65, wherein the step of making said new or improved particulate material utilizes a process map comprising

A) at least one interfacial potential property value, at least one value derived from an interfacial potential property value, at least one component of an interfacial potential property value, or combinations thereof for a particulate material and

B) at least one process variable for a process for preparing said particulate material.

110. (Withdrawn): The method of claim 61, wherein the particulate material is carbonaceous.

111. (Withdrawn): The method of claim 61, wherein the particulate material is carbon black.

112. (Withdrawn): The method of claim 61, wherein the particulate material is a metal oxide.

113. (Withdrawn): The method of claim 61, wherein the particulate material is fumed silica.

114. (Withdrawn): The performance map of claim 83, wherein the particulate material is carbonaceous.

115. (Withdrawn): The performance map of claim 83, wherein the particulate material is carbon black.

116. (Withdrawn): The performance map of claim 83, wherein the particulate material is a metal oxide.

117. (Withdrawn): The performance map of claim 83, wherein the particulate material is fumed silica.

118. (Withdrawn): The process map of claim 95, wherein the particulate material is carbonaceous.

119. (Withdrawn): The process map of claim 95, wherein the particulate material is carbon black.

120. (Withdrawn): The process map of claim 95, wherein the particulate material is a metal oxide.

121. (Withdrawn): The process map of claim 95, wherein the particulate material is fumed silica.

122. (Withdrawn): The method of claim 106, wherein the particulate material is carbonaceous.

123. (Withdrawn): The method of claim 106, wherein the particulate material is carbon black.

124. (Withdrawn): The method of claim 106, wherein the particulate material is a metal oxide.

125. (Withdrawn): The method of claim 106, wherein the particulate material is fumed silica.

126. (Withdrawn): The method of claim 107, wherein the particulate material is carbonaceous.

127. (Withdrawn): The method of claim 107, wherein the particulate material is carbon black.

128. (Withdrawn): The method of claim 107, wherein the particulate material is a metal oxide.

129. (Withdrawn): The method of claim 107, wherein the particulate material is fumed silica.

130. (Withdrawn): The method of claim 68, wherein the number of particulate materials is at least 3.

131. (Withdrawn): The method of claim 68, wherein the number of particulate materials is at least 5.

132. (Withdrawn): The method of claim 68, wherein the number of particulate materials is at least 10.

133. (Withdrawn): The performance map of claim 83, wherein the performance map is multi-dimensional.

134. (Withdrawn): The process map of claim 95, wherein the process map is multi-dimensional.

135. (Previously presented): The method of claim 2, wherein the particulate material being measured with respect to physical phenomena that responds both to morphology and interfacial

potential property, wherein phenomenon that respond to interfacial potential are assigned an interfacial potential property value to the particulate material where at least one of the following conditions is met selected from the group consisting of:

A) effect of morphology is eliminated by also measuring the physical phenomena with an inert probe wherein an inert probe is one for which the interfacial potential is negligible;

B) an external parameter selected from pressure or temperature is changed and the response to that parameter allows an independent calculation of one or more morphological and interfacial potential values; and

C) the physical phenomenon is measured with the same particulate material in different fluids.